COUNTY OF SAN DIEGO
Great Government Through the General Management System – Quality, Timeliness, Value
DEPARTMENT OF HUMAN RESOURCES

CLASS SPECIFICATION CLASSIFIED

ENGINEERING TECHNICIAN I Class No. 003814
ENGINEERING TECHNICIAN II Class No. 003813
ENGINEERING TECHNICIAN III Class No. 003812

■ CLASSIFICATION PURPOSE

To perform technical and engineering work required for the enforcement, investigation, inspection, design, construction, and maintenance of engineering projects and records in office, laboratory, or field settings; and to perform related work as required.

■ DISTINGUISHING CHARACTERISTICS

Engineering Technician is a technical class series that provides paraprofessional engineering support to engineers, surveyors, or program managers. Positions in these classes are allocated to a variety of departments; however, they are primarily found in the Department of Public Works, General Services, and Planning and Land Use.

Engineering Technician I:

This is the first working-level of the Engineering Technician class series. Under general supervision, incumbents perform routine and standardized paraprofessional engineering work in the field, laboratory, or office involving limited discretion in the selection or adaptation of standard procedures or equipment.

Engineering Technician II:

This is the journey- level class in the Engineering Technician series. Under general supervision, incumbents perform a wide variety of paraprofessional engineering work that requires a substantial degree of independent performance in field, laboratory, or office settings, and involves the selection or adaptation of standard procedures or equipment. Positions in this class report to a variety of classes such as Engineering Technician III, professional engineers, surveyors, or program managers.

Engineering Technician III:

This is the highest-level class in the Engineering Technician series. Under general supervision, incumbents are technical supervisors over subordinate engineering technicians and/or perform the most difficult paraprofessional technical engineering work under the direction of professional engineers.

■ FUNCTIONS

The examples of functions listed in the class specification(s) are representative but not necessarily exhaustive or descriptive of any one position in the class(es). Management is not precluded from assigning other related functions not listed herein if such functions are a logical assignment for the position.

Essential Functions:

The following applies to all classes:

1. Operates survey ing instruments in the field.
2. Assists in the performance of engineering, land, topographic, and control surveys.
3. Prepares field notes, plots, sketches, maps, plans, legal descriptions, and street light layouts from field notes or other reference material.
4. Performs engineering and surveying calculations.
5. Investigates land improvement projects, drainage, and sewer systems.
6. Assists in the preparation of contracts, contract plans, and specifications employing varying techniques and equipment.
7. Prepares quantity lists, computes progress estimates, and progress payments.

8. Maintains contract or enforcement files.

9. Performs general office engineering work, such as handling inquiries for information and complaints.

10. Issues road and sewer related permits.

11. Performs research and maintains engineering, surveying, correspondence, and legal records.

12. Types simple forms.

13. Performs field inspections of construction projects for adherence to standards.

14. Issues violation notices, stop work orders, and citations related to enforcement.

15. Examines, checks, and analyzes grading plans, subdivision maps, parcel maps, and records of surveys to insure completeness and accuracy in accordance with laws, regulations, and ordinances.

16. Provides responsive, high quality service to County employees, representatives of outside agencies and members of the public by providing accurate, complete and up-to-date information, in a courteous, efficient and timely manner.

Engineering Technician III

All the functions listed above and

1. Acts as resident engineer inspector at the site of a moderately difficult construction project or as assistant on a large complex project.

2. Performs comprehensive inspections of construction operations involving procedures and methods of construction in the planning, layout, and construction phases.

3. Oversees the activities of field crews engaged in establishing grades, property lines, and elevations.

4. Prepares estimates for payments to contractors.

5. Prepares technical and engineering reports in connection with building construction projects.

6. Performs field and laboratory tests involving inspection, classification of materials, and structural elements for conformance to specific plans and specifications.

7. Supervises field parties in traffic engineering studies.

8. Conducts statistical surveys of traffic use.

9. Forecasts future needs and facilities.

10. Prepares, reviews, and checks ordinary designs, plans, drawings, and cost estimates for a variety of construction, reconstruction, and maintenance projects.

11. Assists in the analyses of difficult engineering calculations, drawings, specifications, and estimates in connection with structural design for the construction of roads, streets, highways, transportation and sanitation systems, and other public works improvement construction projects.

12. Prepares and checks right-of-way plans and maps, legal descriptions, deeds and exhibits for all phases of acquisition, sale or lease of real property.

13. Researches title and easement information.

14. Testifies in court on condemnation or enforcement matters.

15. Reviews and authorizes grading plans for permit applications.

16. Inspects surface mining operations for compliance in accordance with laws, regulations, and ordinances.

■ KNOWLEDGE, SKILLS AND ABILITIES

Knowledge of:

The following apply to all classes:

- Legal documents and maps used in the course of work including the identification of transfers of ownership of real property, rights-of-way, and property lines.
- Modern drafting methods and tools.
- Condemnation proceedings.
- Administrative requirements related to the public works field, such as contracts, permits, and records.
- Construction projects such as roads, parks, airports, and utility lines.
- Trigonometry, geometry, and fundamentals of mathematics to perform engineering calculations.
- Engineering and surveying terminology.
- Fundamentals of engineering and land surveying in field and office settings.
- Methods, materials, and equipment used in public works construction and surveying.
- Reading and interpreting general engineering plans, legal descriptions, and maps.
- County customer service objectives and strategies.

Engineering Technician III (in addition to the above):

- Principles of supervision.

Skills and Abilities to:

The following apply to all classes:

- Read and interpret fundamental engineering details, plans, maps, legal descriptions, estimates, and computations.
- Extract engineering data from various sources including computers.
- Process or compute data using specified formulas and procedures including computer applications.
- Develop and prepare technical reports.
- Maintain written computer records and logs.
- Communicate effectively in English, both written and orally.
- Establish effective working relationships with management, employees, employee representatives and the public representing diverse cultures and backgrounds.
- Treat County employees, representatives of outside agencies and members of the public with courtesy and respect.
- Exercise appropriate judgment in answering questions and releasing information; analyze and project consequences of decisions and/or recommendations.

Engineering Technician III (in addition to the above):

- Assign, train, direct, review, and evaluate the work of subordinates.
- Perform the most difficult paraprofessional engineering work.
- Prioritize requests, work, and schedules to meet deadlines and effectively utilize project resources.

■ EDUCATION/EXPERIENCE

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience are:

Engineering Technician I:

1. Two (2) years paraprofessional engineering experience performing one or more of the following: materials testing; field surveying; data collection and analysis; drafting and statistical computations for design and public works projects; subdivision and parcel map checking and/or real property engineering involving legal descriptions, drafting and research, OR

2. Two (2) years of college level course work in engineering, OR

3. Any combination of education and experience, which equals two (2) years.

Engineering Technician II:

1. Three (3) years paraprofessional engineering experience performing one or more of the following: construction inspection; materials testing; field surveying; traffic data collection and analysis; drafting and statistical computations for design and public works projects; subdivision, parcel map and records of survey checking; and/or real property engineering involving legal descriptions, drafting and research, OR

2. Three (3) years of college level course work in engineering, OR

3. Any combination of education and experience which equals three (3) years, OR

4. One (1) year as an Engineering Technician I in the County of San Diego.

Engineering Technician III:

1. Four (4) years paraprofessional engineering experience performing one or more of the following: construction inspection; materials testing; field surveying; traffic data collection and analysis; drafting and statistical computations for design and public works projects; subdivision, parcel map and records of survey checking; and/or real property engineering involving legal descriptions, drafting and research, OR

2. Four (4) years of college level course work in engineering, OR

3. Any combination of education and experience which equals four (4) years, OR

4. One (1) year as an Engineering Technician II in the County of San Diego.

Note: Thirty college semester units in engineering is considered equivalent to one (1) year of work experience.

■ ESSENTIAL PHYSICAL CHARACTERISTICS

The physical characteristics described here are representative of those that must be met by an employee to successfully perform the essential functions of the classification(s). Reasonable accommodation may be made to enable an individual with qualified disabilities to perform the essential functions of a job, on a case-by-case basis.

Continuous upward and downward flexion of the neck. Frequent: sitting, repetitive use of hands to operate computers, printers and copiers. Occasional: walking on uneven terrain during field inspections, standing, bending and twisting of neck, bending and twisting of waist, squatting, simple grasping, reaching above and below shoulder level, and lifting and carrying files weighing up to 10 pounds.

■ SPECIAL NOTES, LICENSES, OR REQUIREMENTS

License

A valid California class C driver's license, which must be maintained throughout employment in this class, is required at time of appointment, or the ability to arrange necessary and timely transportation for field travel. Employees in this class may be required to use their own vehicle.

Certification/Registration

None Required.

Working Conditions

Office environment; exposure to computer screens. May interact with confrontational or angry customers. Exposure to noise such as surface mining equipment, when conducting field inspections

Background Investigation

Must have a reputation for honesty and trustworthiness. Misdemeanor and/or felony convictions may be disqualifying depending on type, number, severity, and recency. Prior to appointment, candidates will be subject to a background investigation.

Probationary Period

Incumbents appointed to permanent positions in these classes shall serve a probationary period of 6 months (Civil Service Rule 4.2.5).

New: January 5, 1960 - Engineering Technician I
New: December 14, 1964 - Engineering Technician II
New: September 6, 1968 - Engineering Technician III
Revised: February 23, 2000
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Engineering Technician I (Class No. 003814)	Union Code: PS	Variable Entry: Y
Engineering Technician II (Class No. 003813)	Union Code: PS	Variable Entry: Y
Engineering Technician III (Class No. 003812)	Union Code: PS	Variable Entry: Y